WHAT WE CLAIM IS:-

1. A tamper-evident and/or tamper-resistant electronic module comprising an electronic component, a tamper-evident and/or tamper-resistant sheet, and encapsulant material, wherein said component is encapsulated in said encapsulant material and said sheet overlies said component, and wherein said sheet comprises a multi-layer sheet, a plurality of said layers of said sheet being selected from the groups:

(i) an electromagnetic radiation shield layer;

(ii) a tell-tale electrically conductive trip wire defining a convoluted meandering pathway on said layer, said trip wire meandering in a pattern which substantially covers said electronic component in a space filled area of said layer;

(iii) a layer having the features of (ii), and in which the pathway comprises a fractal pattern;

(iv) a layer having the features of (ii), and in which a second tell-tale trip wire extends alongside a first tell-tale trip wire so that they meander as a spaced pair.

(v) an active electromagnetic masking emission layer adapted to emit electromagnetic radiation.

2. A module according to claim 1 wherein said layers are of a flexible electrically insulating plastics material and said shield and/or pathways are electrically conductive coatings or regions carried by said flexible plastics material.

3. A module according to claim 2 wherein said shield and/or pathways are printed onto said layers.

4. A module according to claim 1 wherein said tamper-evident and/or tamper-resistant sheet is encapsulated in said encapsulant material.

5. A module according to claim 4 wherein said encapsulant material is opaque so that said tamper-evident and/or tamper-resistant sheet cannot be seen.

6. A module according to claim 1 wherein said tamper-evident and/or tamper-resistant sheet has one or more layers selected from group (ii) to (iv) sandwiched between two layers from the group (i).

7. A module according to claim 6 wherein said sheet has at least two layers in accordance with any of groups (ii) to (iv), with the meandering pathway of one layer being displaced when viewed in plan from the pathways of the other layer so that as seen in plan projection the pathways of said one and said other layers overlie, at least in part, different parts of the plan area of said component, and wherein said one layer and said other layer are sandwiched between two layers from group (i).

8. A module according to claim 1 wherein said sheet has an undulating, contoured, shape so that a said layer is not disposed in a precisely flat plane.

9. A module according to claim 8 wherein said sheet is encapsulated in said encapsulant which defines a body having a surface, and wherein at different regions of said body selected said layer is at different depths within said body from said surface.

10. A module according to claim 9 wherein said component has projecting hill portions and valley portions between said projecting hill portions, and wherein said sheet undulates with hills and valleys complementary to said hill and valley portions of said component.

11. A module according to claim 1 wherein a first said tamper-evident and/or tamper-resistant sheet extends above said component, and a second said tamper-evident and/or tamper resistant sheet extends below said component.

12. A module according to claim 11 wherein said first and second sheets are separate sheets.

13. A module according to claim 12 wherein said first and second sheets are made separately and do not have identical layer structures.

14. A module according to claim 11 wherein said first and second sheets have main body portions having a generally flat shape and wherein side portions of tamper-evident and/or tamper-resistant sheet extend between said main body portions of said first and second sheet transversely to the main body portions, so as to extend over side regions of said electronic component.

15. A module according to claim 14 wherein said component is substantially completely enclosed in a container of said tamper-evident and/or tamper-resistant sheet.

16. A module according to claim 1 wherein a power supply is encapsulated within said encapsulant and at least one sensor is provided to monitor at least one layer in order to determine whether an expected condition or signal is observed by said sensor.

17. A module according to claim 16 wherein said component comprises a printed circuit board.

18. A module according to claim 17 wherein said printed circuit board has a clock and is adapted to timestamp data, and has a control processor,

and wherein said processor is adapted to generate a tamper-signal upon detection of a tampering signal from one of said layers.

19. A module according to claim 18 wherein said control processor is adapted to perform one or more of the actions:

(i) stop providing timestamp signals;

(ii) issue a tamper alarm;

(iii) record in a memory the occurrence of a tamper event;

upon the generation of said tamper-signal.

20. A module according to claim 1 wherein a thin sheet of frangible material is embedded in said encapsulant overlaying said component, said sheet of frangible material being sufficiently thin that it is likely to crack or break if an attempt is made to drill or cut through it with a laser drill.

21. A module according to claim 20 wherein said sheet of frangible material has at least one of: (i) a diffusive layer adapted in use to diffuse a laser beam so as to reduce the energy intensity of the light which passes through said frangible sheet; (ii) a reflective layer adapted in use to reflect at least a substantial part of the light of an incident laser beam.

22. A module according to claim 1 comprising a PCI card.

23. A tamper-resistant or tamper-evident sheet adapted in use to provide an electronically detectable signal indicative of an attempt to pierce the sheet, said sheet having a plurality of electrically conducting layers with the layers optionally being bonded together to form a unitary sheet, and wherein said layers comprise layers found in the group:

(i) an electromagnetic shielding layer;

(ii) a layer having an electrically conducting moniterable pathway adapted to provide one of: (a) a breakable pathway; (b) modifiable

pathway; (c) part of a circuit when said pathway is communicated with another conducting element during an attack on said sheets.

(iii) a layer having an electromagnetic wave emitter adapted in use to emit masking electromagnetic radiation.

24. A sheet according to claim 23 wherein said sheet is flexible and non-self supporting.

25. A sheet according to claim 24 wherein said sheet has at least three layers that are from the set comprising group (i) and group (ii)and group (iii).

26. A sheet according to claim 24 wherein said sheet has an electrically monitorable layer disposed between two layers of group (i).

27. A sheet according to claim 24 wherein said electromagnetic shielding layer comprises a substantially continuous layer of conductive material deposited on a carrier layer.

28. A sheet according to claim 24 wherein said layers comprise flexible plastics polymer material layers which carry electrically conductive coatings.

29. A sheet according to claim 24 which has a central body portion and at least one fold-down portion adapted in use to fold down out of the general plane of said central portion so as to extend transversely away from it.

30. A sheet according to claim 29 wherein said fold-down portion comprises a peripheral region of said sheet.

31. A sheet according to claim 24 wherein at least some of said electrically conducting layers extend into a foldable tail portion of said sheet, said tail portion being adapted to be folded under said sheet in use, and being adapted to provide an electrical connection point to communicate said at least some layers electrically with an electrical component provided under said sheet in use.

32. A sheet according to claim 23 wherein at least one of said layers comprises a layer of group (ii), and wherein said pathway comprises a fractal pattern.

33. A sheet according to claim 32 wherein at least two of said layers comprise a fractal pattern.

34. A sheet according to claim 24 wherein a first layer of plastics material has a convoluted pattern or fractal pattern tell-tale wire of conductive material, a second layer of plastics material has a convoluted pattern or fractal pattern of tell-tale material, and wherein there is a third layer from group (i).

35. A sheet according to claim 34 wherein said first and second layers are disposed between a pair of layers of group (i), each of said group (i) layers comprising a layer of plastics material coated with a substantially continuous film of conductive material.

36. A tamper-evident and/or tamper-resistant sheet for protecting a component behind said sheet, said sheet comprising a multi-layer sheet wherein at least two layers of said sheet comprise electrically moniterable layers provided with regions of conductive material.

37. A method of providing a tamper-evident and/or tamper-resistant electronic component comprising protecting said component with a multi-

layer sheet, the layers of said sheet being electrically moniterable to detect piercing of the sheet.

38. The method of claim 37 comprising having at least two trip wire layers of meandering trip wire and having the trip wires of different layers cross each other in plan projection so as to reduce the areas in plan projection which are wire-free.

39. The method of claim 38 comprising obscuring the positions of said trip wire layers by covering them with an electromagnetic shielding layer.

40. The method of claim 37 comprising passing a fluctuating signal through a said layer and detecting the signal after it has passed through at least a significant portion of said layer, and comparing said detectable signal with what is expected as said detected signal.

41. The method of claim 37 comprising using a flexible multi-layer sheet.

42. A method of manufacturing a tamper-evident and/or tamper-resistant electronic module comprising the steps of:

taking an electronic component and a tamper-resistant or tamper-evident sheet adapted in use to provide an electronically detectable signal indicative of an attempt to pierce the sheet, said sheet having a plurality of electrically conducting layers with the layers optionally being bonded together to form a unitary sheet, and wherein said layers comprise layers found in the group of

(i) an electromagnetic shielding layer;

(ii) a layer having an electrically conducting moniterable pathway adapted to provide one of: (a) a breakable pathway; (b) modifiable

pathway; (c) part of a circuit when said pathway is communicated with another conducting element during an attack on said sheets; and

(iii) a layer having an electromagnetic wave emitter adapted in use to emit masking electromagnetic radiation; and

of encapsulating said component and said sheet in an encapsulant material.

43. The method of claim 42 comprising holding said sheet and said component in relatively loosely defined relative positions prior to encapsulating them so as to produce modules with relative positions of said sheet and said component that are not precisely predictable.

44. The method of claim 42 comprising introducing a variable amount of encapsulant between said component and said sheet; and/or a variable amount of encapsulant above said sheet.

45. The method of claim 42 comprising providing encapsulant – escape passageways from (i) the space defined between said component and said sheet, and/or (ii) the space between said sheet and on encapsulant surface defining mould.

46. The method of claim 42 comprising having a hole in said sheet and allowing fluid encapsulant to flow through said hole during the manufacture of said module.

47. The method of claim 42 comprising also providing a sheet of frangible material in said module, encapsulated by said encapsulant.

48. A module according to claim 1 wherein said component comprises one of:

(i) a timestamping clock adapted to timestamp data; or

(ii) a PCB having a timestamping clock adapted to timestamp data.

49. A method of providing a trusted data output from a trusted electronic component, the method comprising:

providing a tamper-evident and/or tamper-resistant electronic module comprising an electronic component, a tamper-evident and/or tamper-resistant sheet, and encapsulant material, wherein said component is encapsulated in said encapsulant material and said sheet overlies said component, and wherein said sheet comprises a multi-layer sheet, a plurality of said layers of said sheet being selected from the groups of

(i) an electromagnetic radiation shield layer;

(ii) a tell-tale electrically conductive trip wire defining a convoluted meandering pathway on said layer, said trip wire meandering in a pattern which substantially covers said electronic component in a space filled area of said layer;

(iii) a layer having the features of (ii), and in which the pathway comprises a fractal pattern;

(iv) a layer having the features of (ii), and in which a second tell-tale trip wire extends alongside a first tell-tale trip wire so that they meander as a spaced pair; and

(v) an active electromagnetic masking emission layer adapted to emit electromagnetic radiation;

checking that said module has not been tampered with; data created by said module during a period when the module has not been tampered with comprising trusted clock data.

50. A method of timestamping a document or data comprising providing a trusted clock as part of a tamper-evident and/or tamper-resistant electronic module comprising an electronic component, a tamper-evident and/or tamper-resistant sheet, and encapsulant material, wherein said component is encapsulated in said encapsulant material and said sheet overlies said component, and wherein said sheet comprises a multi-layer sheet, a plurality of said layers of said sheet being selected from the groups of

(i) an electromagnetic radiation shield layer;

(ii) a tell-tale electrically conductive trip wire defining a convoluted meandering pathway on said layer, said trip wire meandering in a pattern which substantially covers said electronic component in a space filled area of said layer;

(iii) a layer having the features of (ii), and in which the pathway comprises a fractal pattern;

(iv) a layer having the features of (ii), and in which a second tell-tale trip wire extends alongside a first tell-tale trip wire so that they meander as a spaced pair; and

(v) an active electromagnetic masking emission layer adapted to emit electromagnetic radiation;

such that a document or data provided to the trusted clock is timestamped by the trusted clock.